

A LASER APPARATUS

ABSTRACT OF THE DISCLOSURE

In a first embodiment, the invention makes use of
5 a Neodymium doped YAG (Nd:YAG) gain medium placed in
an optical resonant cavity formed by two mirrors.
Power extraction is maximized for a specific laser
cavity. In particular the concave curvature on the
rod ends contributes a negative lensing component to
10 modify the strength of the thermal lens. In a second
embodiment the present invention uses an amplifier rod
medium with curved ends to act as lensing elements to
collect emission from the laser gain medium and/or
oscillator described in the first embodiment of the
15 invention. The combination of thermal lens and curved
rod ends produces a lensing effect which allows light
to be directly coupled from a laser. In addition,
variation of the input pump power allows for control
of the thermal lens formed within the amplifier rod.